[Provisional translation]

Moonshot R&D - MILLENNIA Program

FY2020 Call for Proposals
Application Guideline

Application Period
Tuesday, September 8, 2020
to
Noon on Tuesday, November 10, 2020

Japan Science and Technology Agency

Department of Moonshot R&D Program
September 2020

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Chapter 0: Messages for Prospective Applicants

0.1 Message from President of Japan Science and Technology Agency (JST)

Change is up to you!

The novel coronavirus infection (COVID-19), which has spread worldwide since the beginning of 2020, not only threatens global public health but affects all aspects of our society: from politics to the economy to our daily lives. Even now, countries around the world are making their best efforts to overcome this global crisis.

This pandemic has triggered many questions for humankind. How do we keep a balance between prevention of the spread of infection and continuation of our economic activities? How do we transform our ways of working, learning and living to adapt ourselves to the major changes in our lives? How do we establish a resilient and sustainable society in a world of growing uncertainty? And how do we obtain genuine well-being in the New Normal?

While the development of medicine is a priority, to answer these questions we need sociology, politics, law, economics, psychology, philosophy, futurology and more. The key is gathering together various sources of knowledge, including social sciences, and integrating them so that we can rethink human activity from the ground up. In other words, in order to question our existing stereotypical ideas and social values and realize the ideal future society we truly desire, we need both logical and emotional perspectives.

The way to such an ideal future society lies in you, young people. Taking this global crisis as an opportunity, I would like to ask the younger generation to consider the society we truly desire from a range of diverse perspectives.

I hope to see proposals that actualize your own desired 2050, and through the MILLENNIA Program, I expect you to become the pathfinders for the ideal future. I sincerely look forward to applications from passionate young people.

HAMAGUCHI Michinari
President, Japan Science and Technology Agency (JST)

0.2 Message from Visionary Leaders

WATANABE Katsuaki	Former President and CEO of Toyota Motor Corporation
ADACHI Masayuki	President & COO of HORIBA, Ltd
AMANO Hiroshi	Professor, Institute of Materials and Systems for Sustainability Center for Integrated Research of Future Electronics Innovative Devices Section, Nagoya University
KUNO Sachiko	CEO of S&R Foundation (US), Co-founder and Chair of Halcyon (US), Executive Vice-President of Kyoto University

Messages: https://www.jst.go.jp/moonshot/en/application/202009/index.html

Chapter 1: About Call for Proposals

1.1 Overview of MILLENNIA Program [*1]

The Moonshot Research and Development Program aims to stimulate disruptive innovation in Japan, implementing challenging R&D based on ideas that are not just extensions of conventional technology. It is integrally implemented by relevant ministries under the Council for Science, Technology and Innovation (CSTI), the Headquarters for Japan's science, technology and innovation. In January 2020, CSTI set 6 Moonshot Goals (MS Goals) to solve various social, environment, and economic issues with the aim to achieve the 'Human-wellbeing' through the Moonshot R&D Program. Furthermore, Headquarters for Healthcare Policy set a new MS Goal in healthcare field in July 2020.

Meanwhile, due to the occurrence of a novel coronavirus (COVID-19) outbreak, we now need to predict and prepare for the rapid and drastic social changes in the future. CSTI started considering new MS Goals, neither overlapping the existing 7 MS Goals[*2] nor boundaries of pursuing fields or areas, that enables us to predict the post-COVID-19 society clearly and accurately and acclimate ourselves to the rapid social change. It is believed that the incorporation of flexible and creative ideas from youths who will carry vital roles in the future society as well as wide variety of perceptions from around the globe are the keys to create such goals. In the context of these circumstances and thoughts, JST launched the call for proposals for young people, with visions of the ideal society in the post COVID-19 era and R&D approaches to actualize such society by formulating the brainstorming teams. The brainstorming teams are expected to be composed of a young leader and sub-leader as well as diverse personnel, not only researchers but also personnel in a variety of sectors, fields, etc., and implement investigation research to deepen their ideas with synergistic effects. The brainstorming teams will, while adding and/or reorganizing team members flexibly as necessary, validate their proposed ideas, investigate the relevant R&D status globally, summarize the scenarios, etc. for achieving their ideas/goals and make 'Investigation Research Reports [*3]' through their activities.

In the process of their investigation research activities, teams are expected to: look into the diverse and complex social issues that may become apparent globally in the post COVID-19 era; make cross-team collaboration for opinion exchanges, cooperative activities, etc.; engage in dialogues with a wide variety of stakeholders, such as holding international open forums, etc.; obtain advice from outside experts selected by JST, by discussing R&D methods and problem solving scenarios and refining their proposed ideas. JST will make contracts with Japanese institutions that either team leaders or sub-leaders belong to, allocate funds for the investigation research activities, and promote cross team collaboration by holding cross-team events, etc.

After the investigation research period, JST will select ideas that are considered to be suitable as the MS Goal candidates. Based on JST's selection as well as the 'Elements of MS Goals[*4]', CSTI will then select the new MS Goal(s).

A Call for Proposals for newly selected new MS Goal(s) is planned in the same manner as the existing MS Goals. Those youths, such as team leader(s), etc., who contribute to formulate the new MS Goal(s) are expected to participate in the new R&D projects.

*1: Multifaceted Investigation chaLLEnge for New Normal InitiAtives Program

*2: 7 MS Goals

#1 Realization of a society in which human beings can be free from limitations of body, brain, space, and time by 2050.
https://www8.cao.go.jp/cstp/english/moonshot/sub1_en.html
#2 Realization of ultra-early disease prediction and intervention by 2050.
https://www8.cao.go.jp/cstp/english/moonshot/sub2_en.html
#3 Realization of AI robots that autonomously learn, adapt to their environment, evolve in intelligence and act alongside human beings, by 2050.
https://www8.cao.go.jp/cstp/english/moonshot/sub3_en.html
#4 Realization of sustainable resource circulation to recover the global environment by 2050.
https://www8.cao.go.jp/cstp/english/moonshot/sub4_en.html
#5 Creation of the industry that enables sustainable global food supply by exploiting unused biological resources by 2050.
https://www8.cao.go.jp/cstp/english/moonshot/sub5_en.html
#6 Realization of a fault-tolerant universal quantum computer that will revolutionize economy, industry, and security by 2050.
https://www8.cao.go.jp/cstp/english/moonshot/sub6_en.html
#7 Realization of sustainable care systems to overcome major diseases by 2040, for enjoying one's life with relief and release from health concerns until 100 years old.
https://www8.cao.go.jp/cstp/english/moonshot/sub7_en.html

*3: Initiative Reports (IRs) for existing MS Goals were made based on discussions at the Moonshot International Symposium in 2019 and published, except MS Goal 7, on the website below. 'Investigation Research Report', as the deliverable of this investigation research, is expected to be similar to those IRs. For details, please refer to section 3.4 'Investigation Research Deliverables'

#1 Realization of a society in which human beings can be free from limitations of body, brain, space, and time by 2050.
https://www.jst.go.jp/moonshot/sympo/sympo2019/report/initiative-report_wg1.pdf
#2 Realization of ultra-early disease prediction and intervention by 2050.
https://www.jst.go.jp/moonshot/sympo/sympo2019/report/initiative-report_wg2.pdf
#3 Realization of AI robots that autonomously learn, adapt to their environment, evolve in intelligence and act alongside human beings, by 2050.
https://www.jst.go.jp/moonshot/sympo/sympo2019/report/initiative-report_wg3.pdf
#4 Realization of sustainable resource circulation to recover the global environment by 2050.
https://www.jst.go.jp/moonshot/sympo/sympo2019/report/initiative-report_wg4.pdf
#5 Creation of the industry that enables sustainable global food supply by exploiting unused biological resources by 2050.
https://www.jst.go.jp/moonshot/sympo/sympo2019/report/initiative-report_wg5.pdf
#6 Realization of a fault-tolerant universal quantum computer that will revolutionize economy, industry, and security by 2050.
https://www.jst.go.jp/moonshot/sympo/sympo2019/report/initiative-report_wg6.pdf

*4: Elements of MS Goals are composed of the following perspectives.
(1) Inspiring
- Clarity of MS objectives and its necessity
- Strong impact on our future society and the industries
- Values that are sharable among people all over the world
- Intellects brought together from all over the world

(2) Imaginative
- Innovative and radical change of our future societal system
- Clear image of our future direction

(3) Credible
- Not only ambitious but also scientifically feasible
- Validity of progress towards MS goals
- Consistency with relevant strategies and policies

*Note: Human centric is the basic concept of MS goals

1.2 Contribution to the achievement of Sustainable Development Goals (SDGs)

JST contributes to the achievement of Sustainable Development Goals (SDGs)!

At the UN Sustainable Development Summit held in September 2015, the outcome document "**Transforming Our World: the 2030 Agenda for Sustainable Development**" was unanimously adopted. The document focuses on Sustainable Development Goals (SDGs) as the more comprehensive new global action targets for humanity, the planet and prosperity. The 17 goals of the SDGs not only highlight sustainability challenges facing humanity, but also require these challenges to be solved in an integrated and inclusive manner. To this end, it is hoped that Science, Technology and Innovation will solve these social issues and provide a scientific basis for making better policy decisions. These roles align with the new responsibilities of science, i.e., "Science in Society and Science for Society" set forth in the "World Declaration on the Use of Science and Scientific Knowledge" (Budapest Declaration*) adopted by the International Science Council and UNESCO in 1999. As a core organization promoting Japan's science and technology policy, JST promotes cutting-edge basic research and is engaged in problem-solving R&D to meet the needs of society. SDGs are universal goals that can cover JST's mission. JST will co-create values with industry, academia, government, and the public through its programs, and work with the researchers to achieve a sustainable society.

Michinari HAMAGUCHI
President, Japan Science and Technology Agency (JST)

* The Budapest Declaration states that "Science for Knowledge," "Science for Peace," "Science for Development" and "Science in Society and Science for Society" are the responsibilities, challenges and obligations of science in the 21st century.

For the Sustainable Development Goals (SDGs) and JST's commitments, please visit the following website:
(Japanese) https://www.jst.go.jp/sdgs/actionplan/index.html
(English) https://www.jst.go.jp/sdgs/en/actionplan/index.html

1.3 Promoting Diversity

JST is promoting diversity!

Diversity is essential to bring about Science, Technology and Innovation. It is possible to create a new world only when various people of every age, gender and nationality who have diverse expertise and values meet together, share ideas, take co-creative actions and collaborate. By promoting diversity in its all activities in science and technology, JST aims to tackle problems of our future society, and contribute to the enhancement of competitiveness of Japan as well as to the improvement of spiritual richness of its people. JST also aims to contribute to solving not only Japan's domestic issues but also those common throughout the world, in the light

of the fact that various targets closely related to diversity promotion including gender equality are set in the "Sustainable Development Goals (SDGs)" agenda of the United Nations.

Currently, women's active participation is considered central to Japan's growth strategy as "the largest potential of Japan". Expanding the participation of women is important for research and development as well, and female researchers and their diverse perspectives are indispensable to scientific and technological innovations. JST expects more female researchers to apply actively. We are continually working to improve our existing "Childbirth, Child-raising, Nursing Care Support System," carefully listening to the opinions of the researchers who have taken advantage of this system to create an environment where other researchers can always return to their work. We also consider the perspective of diversity when we call for and evaluate new research proposals.

We cordially invite you, all researchers, to apply without hesitation.

Michinari HAMAGUCHI
President, Japan Science and Technology Agency (JST)

We look forward to your application

JST is promoting diversity in research, because we believe that diversity means understanding people who have different ideas and merging those ideas with one's own to create new value. Diversity can help us solve not only domestic problems but also problems common throughout the world. Therefore, we will help tackle social issues on a global scale, such as those in the Sustainable Development Goals (SDGs), by working together with overseas institutions to promote diversity in research.

Diversity initiatives at JST target not only women but also early career and non-Japanese researchers. We continue to support our researchers who give birth, raise children or provide nursing care in order for them to fully exercise their abilities, and try to achieve gender balance in our committees and elsewhere. Our goal is to create an environment where people of every background can develop through friendly competition with each other. As we make our efforts to create new value, we particularly welcome applications from female researches who have been somewhat under-represented in the past.

We look forward to receiving a lot of applications, especially from female researchers.

Miyoko O. WATANABE
Executive Director and General Manager
Office for Diversity and Inclusiveness
Department of Developing Human Resources for R&D Programs
Japan Science and Technology Agency (JST)

1.4 Aiming for Fair Research Activities

Conduct for responsible research activities

The recent incidents involving misconduct and dishonesty in research activities have resulted in an alarming situation that threatens the relationship of trust between science and society and hinders the healthy development of science and technology. To prevent misconduct in research activities, we need autonomous self-purification of the scientific community. Each researcher must strictly discipline themselves and work to create new knowledge and inventions that are useful for society, based on a high moral standard to meet the expectations of society.

As a funding agency for research, the Japan Science and Technology Agency (JST) considers research misconduct a grave issue and makes every effort to prevent it in cooperation with relevant organizations, thereby aiming to regain public trust.

1. JST believes that honesty in research activities is extremely important for Japan, which seeks to develop itself through science and technology.
2. JST supports honest and responsible research activities.
3. JST strictly condemns any misconduct in research activities.
4. JST will promote education in research integrity and reform its research funding programs in cooperation with relevant organizations, in order to prevent misconduct.

We must develop a healthy scientific culture based on social trust and build a society where pursuing hopes and dreams leads to a brighter future. We therefore request the continued understanding and cooperation of the research community and related institutions.

Michinari HAMAGUCHI
President, Japan Science and Technology Agency (JST)

1.5 Open Access and Data Management Plan

JST announced its policy on Open Access to research publications and research data management in April 2017. The policy covers the basic concepts of allowing access to papers on research achievements, as well as the archiving, management, and disclosure of research data.

In principle, researchers participating in the Moonshot Research and Development Program are mandated to produce documents on research achievements available to the public via repository organizations or publications for open access.

Researchers are also requested to prepare a data management plan (DMP). This DMP should contain details on policies and plans for archiving, managing, and publishing (or non-disclosure) of research data in development as achievements. Researchers must submit the DMP, along with the research plan document, to JST. It is also mandatory for researchers to undertake the archiving, management, and publication of research data based on this plan.

Please see the following for details:

- ○ JST Policy on Open Access to Research Publications and Research Data Management
  https://www.jst.go.jp/EN/about/openscience/policy_openscience_en.pdf
- ○ Implementation Guidelines: JST Policy on Open Access to Research Publications and Research Data Management
  https://www.jst.go.jp/EN/about/openscience/guideline_openscience_en.pdf

To grasp the contents of the description, to support researchers, and to reflect the basic principles (revision), JST analyzes the numbers of data modules, the types of data, the types of publication, the storage locations, and other statistical data. The statistical data we analyze are assumed to be disclosed; however, any information that could reveal individual data or other personally identifying information will not be disclosed.

* For life science data, please also refer to the section 4.18, “Data Disclosure from The National Bioscience Database Center.”

Chapter 2: Call for Proposals and Selections

2.1 Call for Proposals

CSTI and Headquarters for Healthcare Policy set 7 MS Goals, and the selection of Project Managers (PMs) is currently underway. However, due to the COVID-19 outbreak, we are now assuming drastic socioeconomic changes and reconsidering the future image of Japan and ideal way to conduct ambitious R&D in response to the current circumstances.

In the 'Guidelines for the Operation and Evaluation of the Moonshot Research and Development Program', it is stated that 'If it is deemed necessary in response to the social environmental changes and progress in science and technology, etc., CSTI evaluates technical feasibility and gathers expertise inside and outside Japan and add/change the MS Goals,' and thus CSTI decided to consider the new significance MS Goals in addition to the existing MS Goals in response to the socioeconomic changes due to the COVID-19 outbreak.

To proceed we must incorporate the flexible ideas of youths, who will play important roles in the post-COVID era, as well as diverse perspectives and knowledge from Japan and abroad. Therefore, JST is holding a call for proposals for new Moonshot Goal candidates from youth-focused teams and supports investigation research activities that deepen and expand their ideas. Ideas, however, that are overlapping with the existing 7 Moonshot Goals are excluded from the selection.

The teams must meet the conditions below:

- A team should be composed of a team leader and sub leader, both having cross-disciplinary perspectives, as well as a few additional team members.
- A team should be composed of diverse personnel, not only researchers but also representatives of a wide variety of fields and organizations with diverse expertise, with diversity in nationalities, genders, etc., and be able to deepen ideas through mutual inspirations among them.
- While young people in their 20s to 40s are assumed for team leaders and sub leaders, any age can be welcomed as long as they have flexible ideas for the next generation. Junior and high school students are welcomed as team members as well.
- Either the team leader or sub leader must be affiliated with a Japanese institution. There is no requirement for the location of organizations that team members are affiliated with.
- Team members must be involved actively in the preparation of the Investigation Research Report as parties, rather than merely providing advice.

2.2 Schedule of Call for Proposals and Selections

Application start date	Tuesday, September 8, 2020
Application deadline (Deadline for submitting through the e-Rad system)	12:00 (noon, Japan time) on Tuesday, November 10 **(No delays accepted)**
Document screening	Middle to End of November
Notification of document screening results (Only to those passed the document screening)	End of November
Interview screening	Beginning to Middle of December
Notification and announcement of selected proposals (To all applicants)	Beginning to Middle of January
Investigation Research Period	From January to June 2021 (6 months)

※ These dates are subject to change. Please check the newest information on our website (https://www.jst.go.jp/moonshot/en/application/202009/index.html).

2.3 Period for Investigation Research

Approximately 6 months (From January to June 2021)

2.4 Amount of Funding
Approximately ¥5,000,000/proposal/implementation period (Direct Cost)
(Indirect cost will be allocated separately)

2.5 Number of Proposals to be Adopted
About 20 proposals

2.6 Requirements for Application
2.6.1 Requirements for Applicants
An Application must be made by either team leader or sub leader, whichever belongs to the Japanese institution.
While young people in their 20s to 40s are assumed for team leaders and sub leaders, any age can be welcomed as long as they have flexible ideas for the next generation, regardless of their fields, nationalities, gender, organizational attributes, etc.
In principle, replacement of the team leader or sub-leader is not allowed.
JST accepts duplicate applications with the Call for Proposals for PMs, currently in process; however, if the team leader and/or sub-leader is/are selected as PM(s), their application(s) for this Call for Proposals will be nullified.

2.6.2 Requirements for Team Composition
The investigation research team must be composed of a team leader and sub leader as core members as well as a few additional team members. The addition of members and reorganization of the team during investigation research activities are welcomed as well.
While team members should primarily be young, any age can be welcomed as long as they have flexible ideas for the next generation, regardless of their fields, nationalities, gender, organizational attributes, location of their affiliated organizations, etc.
Team members must be involved actively in the preparation of the Investigation Research Report as parties, rather than merely providing advice. College students as well as junior and high school students and personnel from overseas are welcomed.
Based on these requirements, the team must be composed of diverse personnel, not only researchers but also representatives of a wide variety of fields and organizations with diverse values, perspectives, and expertise, with diversity in nationalities, genders, etc., and be able to deepen ideas through mutual inspirations among them.

2.6.3 Requirements for Applicants' Institutions
Either team leader or sub leader must be affiliated with a Japanese institution while not being limited to its organization attributes or fields.
In principle, JST concludes the research agreement with the institution to which the team leader belongs to; however, if it is difficult to conclude the agreement with such an institution in a prompt manner (for example, if it is located overseas, etc.), JST concludes the agreement with the institution to which the sub-leader is affiliated.

2.7 How to Apply
Please download an application form from our website below, fill in a form according to the instructions written in italics, and submit your proposal through the Cross-ministerial R&D Management System (e-Rad).
https://www.jst.go.jp/moonshot/en/application/202009/index.html
Please note the following when applying.
- Please delete all instructions written in italics before applying.
- Application must be made by either team leader or sub-leader, whichever belongs to the Japanese institution.
- Application must be made in a simple and concise manner, based on the format.
- Please put the page numbers at the center of the footer of the proposal.
- Please convert your word-based proposal data to PDF format directly (not a scanned copy) without any security settings when applying.

Please also refer to "Chapter 5: Submission via the Cross-ministerial R&D Management System (e-Rad)" for

details.

2.8 Selection Method

2.8.1 Selection Process

Proposals will be examined by document and interview screenings. JST may make individual inquiries regarding the application details during the screening process.

The screening will be conducted privately by the panel, but in the case of a conflict of interest, such panel member(s) will be excluded from the screening process. It is obligatory that the panel members do not disclose any information obtained through the series of screenings to a third party, not only during the screening process but also after completing the process.

Document Screening

Visionary leaders, etc. will conduct the document screening and select proposals for the interview screening.

Interview Screening

Visionary leaders, etc. will conduct the interview screening. The date and details of interview screening will be notified to interviewees at a later date.

Proposal Selection

JST will make selection decisions based on document and interview screenings.

Selection methods above are subject to change due to the situation on COVID-19 pandemic. In that case, JST will promptly make a notice on our website (https://www.jst.go.jp/moonshot/en/application/202009/index.html).

2.8.2 Managing Conflicts of Interest (COI)

To achieve fair and transparent evaluation and research fund allocation, JST will manage COI as follows in accordance with JST's rules.

(1) Possible sources of COI for those involved in screening

a. A person who is in kinship with the team leader and/or sub-leader.
b. A person who belongs to the same department or has the same specialization at a research institution, such as a university or national R&D agency or belongs to the same company as the team leader and/or sub-leader.
c. A person who conducts joint research closely with the team leader and/or sub-leader. (For example, a person performing a joint project or writing a co-authored research paper, a research member having the same purpose, or a joint researcher pursuing the proposer's research project who is considered to belong to a research group substantially the same as that of the proposer.)
d. A person who has a close teacher-and-student relationship or a direct employment relationship with the team leader and/or sub-leader.
e. A person who is in academic competition with the research project of the team leader and/or sub-leader or belongs to a company in a competitive relationship in the market.
f. Others determined by JST to be a stakeholder.

(2) Possible sources of COI within JST

Selecting a JST-invested company (hereinafter referred to as the "invested company") for the program and allocating research funds to the invested company may fall under the COI of JST. JST properly determines and manages COI between JST and the invested company to avoid any doubt from third parties.

A JST Senior Advisory Team will deliberate at a program committee on whether a research proposal involving a JST invested company is appropriate looking at necessity and rationality.

To specify the JST invested company as a participating organization, the applicant is requested to declare that the JST invested company is listed in the participating organizations in Form 6 of the proposal.

JST manages COI to secure the fairness and transparency of JST and does not handle a JST invested company unfavorably. We simply request cooperation with our COI management.

2.9 Selection Considerations

Selection will be made based on the following considerations.

(1) The importance of proposed ideas:

① Passion for envisioning 2050 society
- How to gain insight into the present society and draw out the future vision.
- The vision of 2050 society to be achieved.
- How to realize the envisioned 2050 society with proposed ideas.

② Is the proposed idea 'inspiring'?
- Clarity of MS objectives and its necessity.
- Strong impact on our future society and the industries.
- Values that are sharable among people all over the world.
- Intellects brought together from all over the world.

③ Is the proposed idea 'imaginative'?
- Innovative and radical change of our future societal system.
- Clear image of our future direction.

(2) Appropriateness of methods of investigation research:

① Methods for investigating the ripple effectiveness
- How to verify the necessities and expected ripple effectiveness.

② Methods for investigating the necessary R&D strategies and scenarios for achieving goals
- How to determine the specific goals to be achieved in 2030 by backcasting from the MS Goal candidate in 2050.
- How to clarify the R&D themes that should be focused on and the R&D trends related to them in order to achieve the goals for 2030.
- How to clarify the scenario to achieve MS Goals in 2050 after achieving goals in 2030.
- What format and targeted participants to be planned for holding international workshops, etc. to exchange opinions, gather wisdom and integrate ideas.
- How to clarify the scientific feasibility and verifiable success criteria of the proposing goals.
- How to summarize results to make the Investigation Research Report that is appealing to be selected as the new MS Goal.

Chapter 3: Implementation of Investigation Research

3.1 Creation of Investigation Research Plan

Please revise the investigation research plan as necessary, based on comments during the selection process and/or advice from experts during the investigation research period.

3.2 Conclusion of Research Agreement

a. Once proposal is accepted, in principle, JST concludes the research agreement with the institution to which the team leader belongs to; however, if it is difficult to conclude the agreement with such an institution in a prompt manner (for example, if it is located overseas, etc.), JST concludes the agreement with the institution to which the sub-leader is affiliated.
b. If the agreement cannot be concluded with the institution, the institutional system necessary for managing and auditing public research funds cannot be established, or the financial situation is extremely unstable, such an institution may not be able to implement the investigation research. Please refer to '3.7 Responsibilities of Institutions' for details.
c. In principle, patents and other intellectual property rights resulting from investigation research shall, in accordance with the agreement, reside with research institutions under the condition that the research institutions abide by the items provided in Article 17 (Japanese version of the Bayh-Dole Act) of the Industrial Technology Enhancement Act. However, this rule does not apply to foreign research institutions.

3.3 Funds

JST distributes the research funds, which consist of research expenses (direct costs) and indirect costs (in principle, 30% of the direct costs), to the research institution according to the research agreement.

The research fund is limited to the cost of conducting the relevant investigation research activities. Please note that JST may ask the institution to adjust the breakdown of the research fund during the investigation research period.

3.3.1 Direct Cost

Research fund (direct cost) is for those directly related to and required for pursuing the investigation research, including items below:

a. Commodities: Costs for purchasing equipment, consumable supplies, etc. necessary for the investigation research
b. Travel Expenses: Expenses for travel by team leader, sub leader and team members as well as those cooperating with such investigation research activities.
c. Personnel Expenses: Salaries for team leader, sub leader and team members, temporary staff, honorariums, etc.
d. Other Expenses: Costs for holding workshops, other expenses such as buyout expenses, etc.

For details regarding personnel expenses for PI and buyout expenses, please refer to JST official administration manuals (will be posted at a later date) (https://www.jst.go.jp/moonshot/en/application/202009/index.html).

The following are examples of items not handled as research costs (direct cost):

- Costs for items not consistent with the research objectives.
- Costs that are considered to be more appropriately handled as overhead costs (indirect cost).
- Costs that JST judges that use is not appropriate in the settlement of commissioned research expenses*.

* JST has established rules and guidelines specific to the project for some items, based on commissioned research contracts, administrative manuals, and the cross-ministerial expenses handling table, etc. Also, handling may differ between universities, etc. (universities, public research institutes, public interest corporations, etc. accepted by JST) and companies, etc. (mainly research institutes other than universities, etc., such as private enterprises). For details, please refer to JST official administration manuals (https://www.jst.go.jp/moonshot/en/application/202009/index.html).

3.3.2 Indirect Cost

Indirect costs are costs required for the management of research institutions pursuing research; they are, in

principle, capped at 30% of direct costs. Research institutions are required to create policies regarding the use of indirect costs and execute them systematically and properly to ensure that the use is transparent and in line with the "Common Guidance for the Execution of Indirect Costs of the Competitive Fund" (agreed upon by the coordination committees of relevant ministries and agencies on competitive funds on April 20, 2001 and revised on July 18, 2019).

3.3.3 Multi-Year Contracts and the Carryover System

From the perspective of the effective and efficient use of research expenses to maximize research results and prevent misconduct, JST concludes a multi-fiscal year research agreement so that research costs can be carried over across the next fiscal years, or a procurement contract that spans the fiscal years can be concluded. (The handling of the carryover system varies depending on the universities and companies, and the multi-fiscal year contract and the carryover may not be permitted due to the administrative management system of a research institution.)

3.4 Investigation Research Deliverables

The brainstorming teams are required to submit the 'Investigation Research Reports' at the end of activities, by summarizing the scenarios for achieving their goals.

- Investigation Research Reports will be published on the JST website.
- Please make the reports, in principle, according to the following chapters.

I. Concept of MS Goal candidate
  1. MS Goal Candidate, based on the team's hypothesis of the post COVID-19 society
  2. Target
  3. Concept
  4. Action Outline
  5. Why now?
  6. Changes in industry and society

II. STATISTICAL ANALYSIS
  1. Structuring of MS Goal Candidate
  2. Science and Technology Map
  3. Strengths of Japan, Overseas trends
  4. Further Estimation

III. SCENARIO FOR REALIZATION
  1. Realization of Goals
  2. International Collaboration
  3. Interdisciplinary Cooperation
  4. ELSI

IV. Conclusion

3.5 Ex-post Evaluation

After the investigation research period, JST selects few MS Goal candidates suggested by the teams in their Investigation Research Reports considering the following:

How much the teams have deepened and elaborated their ideas from the viewpoints of 'Inspiring', 'Imaginative' and 'Credible.'

<Inspiring>

- Clarity of MS objectives and its necessity
- Strong impact on our future society and the industries
- Sharable values with citizens of Japan and the world
- Intellects brought together from all over the world

<Imaginative>

- Innovative and radical change of our future societal system
- Clear image of our future direction

<Credible>

- Not only ambitious but also scientifically feasible
- Validity of progress towards MS goals

- Consistency with relevant strategies and policies

CSTI will then decide the new MS Goals from among these candidates. Based on the new MS Goals, PD(s) will be appointed, and new PMs will be selected via open call. Those youths who have been involved in the creation of new MS Goals are expected to participate in the new MS R&D project.

3.6 Responsibilities of Team Leaders, Sub-Leaders and Team Members

Team leaders and sub leaders are obliged to conduct their research honestly and effectively, fully understanding that their research is funded by precious tax revenues collected from citizens.

Team leaders and sub leaders are also obliged to implement the team-management as well as hold international workshops, etc. to promote dialogue with a wide variety of stakeholders and exercise leadership during their investigation research activities.

3.7 Responsibilities of Institutions

In conducting research, the research institutions must be fully aware that the funds for contract research costs are public funds. So, they must comply with relevant laws and regulations, and strive to carry out research efficiently. Research institutions that fail to fulfill the responsibilities listed below are not eligible to perform research. At the time of application, please be sure to obtain prior consent from all research institutions planning to conduct research (hereinafter referred to as "participating organizations").

While team members from overseas institutions are welcomed in this scheme, JST concludes a research contract only with the research institute in Japan, which both the team leader or subleader belongs, and such a research institution shall execute all research expenses.

a. Research institutions shall, in principle, enter into the research agreement with the contents presented by JST. They have an obligation to carry out research properly in accordance with the research agreement, administration manuals and the research plan. If the research agreement cannot be concluded or if JST determines that the research will not be conducted properly, the research implementation at the relevant research institution is not permitted.
   * For the latest template for the research agreement, please visit the following URL:
   https://www.jst.go.jp/moonshot/en/application/202009/index.html
b. Research institutions are required to make efforts for the appropriate execution of the research funds by establishing a system for managing and auditing the public research funds in accordance with the "Guidelines for the Management and Audit of Public Research Funds in Research Institutions (Practice Standards) (decision, Minister of Education, Culture, Sports, Science and Technology, February 15, 2007; revised on February 18, 2014). Furthermore, the research institutions are obliged to report periodically to MEXT on the status of the implementation of organizing such managing and auditing system as well as cooperate in various investigations into their system implementation and other related matters.
   "Guidelines for the Management and Audit of Public Research Funds in Research Institutions (Practice Standards).": https://www.mext.go.jp/a_menu/kansa/houkoku/1343904.htm
c. In accordance with the "Guidelines for Responding to Misconduct in Research" (August 26, 2014, adopted by the Minister of Education, Culture, Sports, Science and Technology), research institutions are obliged to implement regulations and systems necessary for preventing research misconduct, and are responsible for operating the regulations and systems effective in actual situations. Also, research institutions are responsible for responding to various investigations relating to the construction of administration based on the "Consideration on "Guidelines for Responding to Misconduct in Research.":
   https://www.mext.go.jp/b_menu/houdou/26/08/1351568.htm
d. Research institutions have an obligation to make research participants fully aware of the contents of the guidelines set forth in "b" and "c" above and have them learn materials related to the research integrity defined by JST.
e. In executing research expenses, the research institutions shall spend and manage them properly in accordance with their own regulations while taking flexibility into consideration. For items for which program-specific rules are provided in JST's administration manuals, the research institutions shall follow these rules. (For items not set forth in the administration manuals regarding the use of contract research grants, a research institution that receives it may follow the rules for handling it at its own discretion.)
f. Research institutions shall exchange an agreement with the research participants stating that the intellectual

property right arising out of research belongs to the research institutions or establish job rules stating the same. In particular, if a student without an employment relationship with a research institution participates in research there, the research institution should preliminarily take necessary measures, such as signing an agreement with the student to ensure that intellectual property rights pertaining to invention (including ideas) made by the student during the research belong to the research institution unless the student is not clearly able to become an inventor. In the case of assignment or transfer of an intellectual property right from a student, an inventor, the research institution should take proper care of his/her compensation so that he /she will not be disadvantaged. In addition, in the case of transferring an intellectual property right or setting a dedicated license for the intellectual property right, the research institution shall, in principle, obtain prior approval from JST. In the case of applying for, registering, implementing or abandoning patent rights, the research institution has an obligation to make required reports to JST.

g. Research institutions have an obligation to respond to accounting investigations by JST and account audits by the government.

h. Research institutions shall follow measures, such as changing the terms of payment or reduction in payments, decided upon by JST based on JST investigations on the administrative management system, financial conditions, etc. Depending on the results of the program evaluation at the end of JST's mid- and long-term objective periods, there may be calls for dissolution or contraction. In the case of any changes to national budgetary measures, JST may take such measures as contract termination or reduction in contract research expenses, during the term of the contract pursuant to the special provisions of the research agreement. Based on the results of the mid-term evaluation, etc. of the research project, JST may take measures, such as changing the contract research funds or the contract period or cancelling the research. If JST determines that the continuation of research is not appropriate, it may take measures, such as cancellation of the contract even during the term of the contract. The research institutions need to follow these measures.

i. If a research institution which is a national or municipal organization concludes the research agreement, the research institution shall implement necessary budgetary measures before the start of the research agreement under its responsibility. (In the case where it becomes apparent that necessary procedures have not been performed after the conclusion of the agreement, JST may take measures, such as cancellation of the research agreement, refunding of the contract research costs, etc.)

j. As part of efforts to prevent misconduct during research activities, JST has decided to require researchers, etc. who participate in newly selected research projects and belong to the research institutions to receive and complete educational materials on research integrity. (Mandatory procedures required for attendance will be conducted by JST.) The research institutions shall ensure that the target people attend and complete it.
If a researcher, etc. fails to fulfill their duty to complete the education, despite repeated requests from JST, JST will instruct the relevant research institution to suspend the execution of all or part of the contract research funds. The research institution shall stop expending the research funds in accordance with the instruction and shall not resume the execution until instructed.

k. In order not to interfere with the proper implementation of research and the utilization of research results, please take necessary measures such as concluding agreement with participating institutions regarding the handling of intellectual property rights, confidentiality, etc., which are not inconsistent with the research agreement with JST.

l. Since the contract research budget is funded by national funds, the research institutions shall take appropriate measures to fulfill their accountability in consideration of economics, efficiency, effectiveness, legality, and accuracy. The research institutions shall strive to execute them in accordance with a plan and shall not procure something to consume budgetary funds at the end of the research period or at the end of the fiscal year.

3.8 Others

3.8.1 Utilization of JREC-IN Portal

The database of research human resources (JREC-IN https://jrecin.jst.go.jp/seek/SeekTop?ln=1) is the largest website supporting research human resources in Japan. It is free to browse this service containing information on human resources, including researchers, their supporters, and engineers involved in research.

At present, the database holds more than 19,000 pieces of information on needed human resources from universities, public research organizations, and private business firms, in addition to more than 130,000 registered users. Use JREC-IN Portal to look for research human resources (postdoctoral, researchers, and so on) with high levels of knowledge to promote research projects.

Furthermore, JREC-IN Portal collaborates with researchmap. It may be reach by logging in with a

researchmap ID and password. It functions for the preparation of resumes; information registered in researchmap can be used to prepare achievement lists.

Chapter 4: Application Instructions

4.1 Completion of eAPRIN (e-Learning Course on Research Ethics)

The research project applicant must complete the Educational Program on Research Integrity as a prerequisite for application. Note that if completion of the program cannot be confirmed, the application will be disqualified for failing to meet the requirements.

To enroll in the Educational Program on Research Integrity and to submit a declaration of completion, follow either procedure (1) or (2) below. For application instructions using e-Rad, please refer to "Chapter 5: Submission via the Cross-ministerial R&D Management System (e-Rad)".

(1) For applicants who have completed an equivalent program at their institution
Applicants, who have already completed an e-learning program or educational seminar on various aspects of research integrity (including eAPRIN (ex-CITI Japan) e-learning program and JSPS e-Learning Course on Research Ethics) at your institution by the time of their application, are requested to make the declaration of it on the e-Rad application information input screen.

(2) For applicants who have not completed an equivalent program at their institution (including applicants at institutions who do not have such a program)

a. Applicants who have in the past completed eAPRIN (ex-CITI Japan) e-learning program in a JST program.
Applicants who have in the past completed eAPRIN (ex-CITI Japan) e-learning program in a JST program by the time of their application are requested to make the declaration of it on the e-Rad application information input screen.

b. For other applicants for whom a. above does not apply.
Applicants who find it difficult to enroll in the educational program for research integrity because their institution does not offer such a program or for other reasons may enroll in and take a digest version of eAPRIN (ex-CITI Japan) e-learning program offered through JST. Please attend from the URL below.
Course URL: https://edu2.aprin.or.jp/ard/

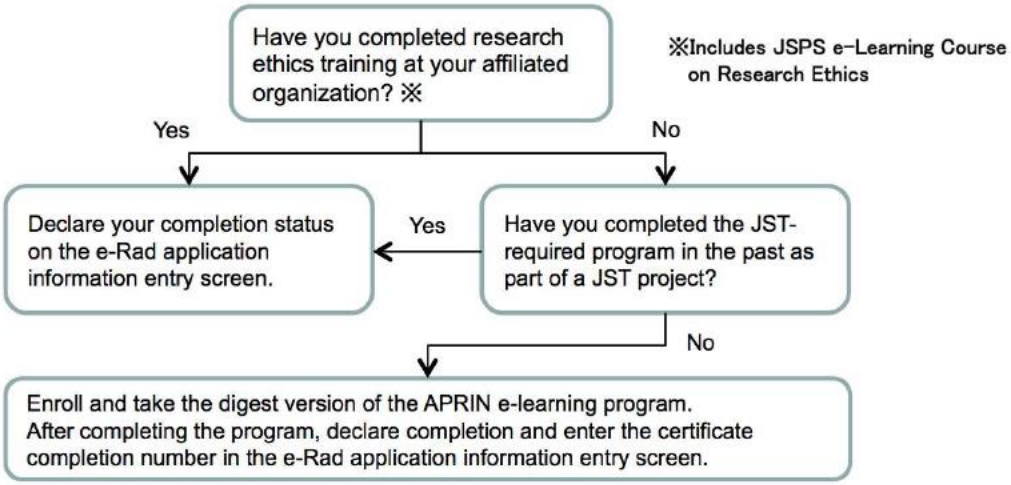
No cost is needed for completing the program, which will take one to two hours to complete. Once enrolled, applicants are expected to complete the program without delay and then to declare the completion of the program and to also enter the number of the completion confirmation sheet (7 figures number + ARD) in the e-Rad application information input screen.

■Contact for consultation on the Educational Program on Research Integrity
Japan Science and Technology Agency
Department of Audit and Legal Affairs, Research Integrity Division
Email: rcr-kousyu@jst.go.jp

■Contact for consultation on the call for application
Japan Science and Technology Agency
Department of Moonshot Research and Development Program
Email: moonshot-koubo@jst.go.jp

* Please include the program name, research applicant name, and project name in the body of email.

<Flow chart for Reporting Completion of Research Ethics Education Programs>



JST requires researchers participating in this program to enroll in and complete designated units1 of the eAPRIN (ex-CITI Japan) e-learning program. All researchers of an accepted proposal are required to complete the designated units of the eAPRIN (ex-CITI Japan) e-learning program (excluding those who have already completed the eAPRIN (ex-CITI Japan) e-learning program at their institution or in another JST program).

4.2 Measures against Unreasonable Duplication and Excessive Concentration

○ Measures against unreasonable duplication

In the case where a researcher is unnecessarily receiving competitive funding from multiple sources by the government or independent administrative corporations (including national R&D agencies) for the same research project (in terms of its title or the content of research receiving competitive funding; hereinafter the same shall apply) being undertaken by the same researcher and the researchers shall be made ineligible to apply for this program, the selection decision for their research program revoked or their research funding reduced (hereinafter referred to as "revoking of the selection decision for the research project") in cases falling under any of the following.

- In the case where simultaneous proposals have been submitted for multiple competitive research funds and a duplicate approval has been granted for essentially the same research project (including overlapping cases, the same shall apply hereinafter).
- In the case where a duplicate application is made for funding a research project that is essentially the same as another research project that has already been selected and received competitive research funding.
- In the case where there is overlap in the intended use of research funds between multiple research projects
- Other cases equivalent to the above

  Even at the application stage of this program, no restriction is imposed on the application for other competitive funding programs. However, if the research project is selected by another competitive funding program, it shall be conveyed promptly to the clerk in charge of this program. If there is any omission in this report, the selection decision for the research project may be revoked.

○Measures against excessive concentration

Even if the content of the research proposed for this program differs from the content of research being carried out under another competitive funding program, in the case where the overall research funding allocated to the same researcher or research group (hereinafter referred to as "researchers") in the relevant fiscal year exceeds an amount that can be utilized effectively and efficiently and can be used within the research period, and the selection decision may be revoked in this project in cases falling under any of the following.

- In the case where an excessive amount of research funding is being received in light of the capabilities of the researchers and the research methods being used, etc.
- In the case where an excessive amount of research funding is being received in comparison with the amount of effort allocated to the research project (the percentage of working hours required for conducting the relevant research in the total working hours (*))

- In the case where highly expensive research equipment is purchased unnecessarily
- Other cases equivalent to the above

  In the case where you submit proposals to other competitive funding programs after submitting your application for this program, and the research project is selected by another competitive funding program or if any information provided on your application changes, it shall be conveyed promptly to the clerk in charge of this program. If reporting is omitted, the selection decision for the research project may be revoked.

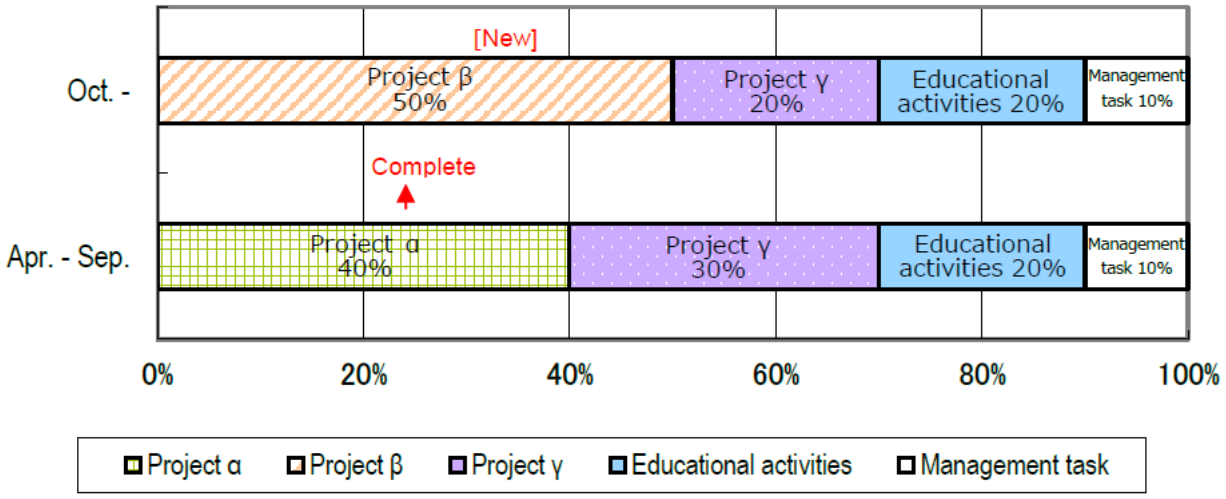
* The researcher's total working hours do not only refer to the hours for research activities, but also to substantially all working hours including those for educational activities and management tasks.

Concept of effort

Definition of effort

- The 3rd Science and Technology Basic Plan defines an effort as "a percentage of working hours for a researcher to engage in each task, such as research, education, or management."
- When researchers apply for a research project, they will be asked to indicate "the proportion of the time required for conducting the research to the total working hours."
- It is important to note that this "total working hours" include not only the time spent on research activities, but also the time spent on educational activities and management tasks.
- The effort value may be changed according to the review and assessment of the research plan.

  Ex.: Percentages of working hours for projects α, β and γ in the total working hours whereby project α is discontinued and project β is selected in the middle of the fiscal year, and project γ is implemented throughout the year



- The project α ended at the end of September (allocation rate 40%) and the project β was newly started from October (allocation rate 50%) which will change the effort value of the project γ from 30% to 20%.

* "Guidelines for Appropriate Execution of Competitive Funds" (agreed upon by the coordination committees of relevant ministries and agencies on competitive funds, revised on June 22, 2017)

○Providing information on application content to eliminate unreasonable duplication and excessive concentration

In order to eliminate unreasonable duplication and excessive concentration, JST may partially provide information on the application content (or selected research projects or programs) to persons in charge of other competitive funding programs, including at other ministries and agencies, to the extent necessary, through cross-ministerial R&D Management System (e-Rad). When asked, JST may also provide information in the same way to facilitate these checks at other competitive funding programs.

4.3 Acceptance Status of Applications for Other Competitive Funds, Including Other Governmental Bodies

If the content of the entry regarding the elimination of unreasonable duplication and excessive concentration is described differently from the facts, it may result in the rejection of a research project, revoking of selection decision or reduction in research funds.

4.4 Measures against Inappropriate Usage and Acquirement of Fund

JST will respond strictly to an improper use and improper receipt of research funds (hereinafter referred to as a "improper use and the like") as follows.

○ Measures to be taken when an improper use and the like of research costs is found

(i) Measures to cancel the agreement

For a research project for which an improper use and the like has been found, JST will cancel or change the consigned contract and request for return of all or part of the consignment expenses. In addition, JST may not enter into a contract for the next and subsequent fiscal years.

(ii) Measures to restrict eligibility for application and participation[*1]

If a researcher who has made an improper use and the like of research funds of a program (including a researcher who has conspired; hereinafter referred to as a "researcher who made an improper use and the like") or is accredited to have been involved in the improper use and the like will be regarded as to have violated the duty of due care required of a prudent manager[*2], JST will restrict his/her eligibility for application for or participation in this program or give him/her a strict reprimand as shown in the following table, depending on the degree of injustice.

JST may provide the persons in charge of other competitive funding programs, including those of other ministries and agencies and independent administrative corporations under their jurisdiction, with a summary of the improper use and the like (name of the researcher who has made the improper use and the like , project title, affiliated organization, research project, amount of budget, fiscal year of research, description of misconduct, and description of measures that have been taken).

[*1] The "application and participation" refers to proposal of or application for a new project, new participation in research as a joint researcher, or participation in an ongoing research project (continued project) as a principal investigator or joint researcher.

[*2] "A researcher who has violated the duty of due care required of a prudent manager" refers to a researcher who was not recognized as being involved in an improper use and the like but has violated the duty to conduct the project with the attention of a prudent manager.

Classification of improper use or improper receipt	Degree of improper use		Application prohibited period [*3]
Those researchers who engaged in improper use and any researchers colluding in the said improper use [*1]	1 Personal use for personal gain		10 years
	2 Other than above	1) Major influences on society, or strongly aggravated	5 years
		2) Improper use other than 1) or 3)	2 – 4 years
		3) Minor influence on society, or weakly aggravated	1 year
Those researchers awarded competitive funding through false or other improper means and any researchers colluding in the said improper use			5 years
Those researchers who were not involved in the improper use but were in violation of the requirement to exercise the duty of due care required			A minimum of 1 year to a maximum of 2 years according to the researcher's degree of

of a prudent manager [*2]		violation of the duty of due care required of a prudent manager

In the following cases, there will be no restriction on eligibility, but a reprimand will be issued.

[*1] Improper use having a minor impact on society and that is deemed to have been done with little malicious intent, and the amount of improper used funds is small.

[*2] Improper use having a minor impact on society and that is deemed to have been done with little malicious intent.

[*3] The eligibility for participation is also restricted for the fiscal year in which the improper use and the like has been determined as such.

(iii) About publication of misconduct case

For the researchers, who have made an improper use and the like of research funds and violated the duty of due care required of a prudent manager in this project, are subject to restrictions on eligibility for application for and participation in it. JST will publicly disclose the overview of the misconduct case (researcher name, project title, affiliate organization, fiscal year of research, description of misconduct, and description of measures that have been taken). The overview of the misconduct case (program name, affiliate organization, fiscal year of research, content of misconduct, and description of measures that have been taken) is also released, in principle, by the Ministry of Education, Culture, Sports, Science and Technology (MEXT).

"Guidelines for Management and Audit of Public Research Funds in Research Institutions (Implementation Standards)" states that if the misconduct is found and determined as a result of the survey, the research institution is required to announce the survey results promptly.

Each organization should act properly in accordance with the guidelines.

* For the outline of the misconduct cases currently published on the website of MEXT, please refer to the following URL. http://www.mext.go.jp/a_menu/kansa/houkoku/1364929.htm

4.5 Measures taken for Researchers whose Application and Participation Eligibilities are Restricted in Other Competitive Fund System

For researchers who have been restricted due to the improper use and the like of research funds in other competitive funding programs * of the government or independent administrative corporations are also restricted on eligibility for application for and participation in this program during that restriction period.

The other competitive funding programs also include ones for which public invitation will start from the FY2019. The other competitive funding programs also include ones for which public invitation ended before the fiscal year FY2018.

* For specific target competitive funding programs, please visit the following website: https://www8.cao.go.jp/cstp/compefund/

4.6 Measures taken to the Violation of Relevant Laws

If research is conducted in violation of the relevant laws and regulations or guidelines, the researcher will be subject to disposal and penalties pursuant to the laws and regulations, the termination of research fund allocation, or revoking of the decision on research fund allocation.

4.7 Storage of Receipts and Report of Actual Usage of Indirect Costs

Research institutions that receive allocated indirect costs are requested to manage them properly and store documents, such as receipts, that prove their appropriate use for five years from the fiscal year following the fiscal year of project completion.

Research institutions that have received allocated indirect costs should report their actual use for each fiscal year by June 30 of the following fiscal year to JST (Research institutions that have acquired multiple competitive funds are requested to report all the indirect costs relevant to them).

4.8 Carrying over of Research Expenses

If a research institution finds it difficult to finish spending its research fund within the fiscal year along with

the progress of the project due to difficulties in prior investigation or determination of research methods, various conditions related to planning or design, weather conditions, difficulties in obtaining materials or for other unavoidable reasons, JST may allow the research fund to be carried over to the end of the next fiscal year.

4.9 Cross-ministerial Expenses Handling Partitioned Table

In this program, the cost structure is determined based on the cross-ministerial cost categorization table that is to be commonly used for competitive funds. For the handling of costs, please refer to the following cross-ministerial cost categorization table.
https://www.jst.go.jp/moonshot/en/application/202009/index.html

4.10 Exchange of Direct Costs between Expense Items

For diversion of cost among the items, the amount of diversion permitted without JST approval is capped at 50% of the total direct costs.

4.11 Securing Investigation Research Period until the end of Fiscal Year

JST takes the following measures for all the competitive funds so that researchers can conduct their research until the end of the fiscal year.

(1) Research institutions and researchers shall submit a project completion notice as an outcome promptly after the completion of the project. JST will confirm it and perform acceptance inspection of the research results.
(2) The deadline for submitting the accounting performance report shall be August 31.
(3) The deadline for submission of the research results report shall be August 31.

Each research institution should strive to establish a necessary system based on the understanding that these measures are taken to secure the research period which ends at the end of the fiscal year.

4.12 Promotion on Effective Use of Research Facilities and Equipment

According to “Reform on Competitive Research Funds for Sustainable Creation of Research Achievements (Midterm Summary)” (Examination Meeting on the Reform of Competitive Funds, June 24, 2015), it is considered appropriate that facilities/equipment which are comparatively large in scale and have high general applicability should in principle be shared, under the assumption that the original research objectives are sufficiently accomplished.

In addition, “Introduction of a New Research Facility/Equipment Sharing System Integrated with the Management of Research Institutes” (Advanced Research Platform Group, Council for Science and Technology, November 2015) requires the operation of a “system to share research facilities/equipment in research organization units” (hereinafter, “equipment sharing system”) in universities, National Research and Development Agencies, and similar institutions.

Based on the above, for research facilities/equipment which are purchased by this program, and particularly for large scale, general purpose items, positive efforts for sharing should be made, including sharing within the scope that does hinder the progress of the applicable Research Project, use of research facilities and equipment purchased with other research funds, and purchase and sharing by combining multiple research funds, within the scope of the management conditions of other research funds and in accordance with the equipment sharing system in the affiliated institution or organization. Please note that it is necessary to strike a balance between management as shared equipment/facilities and accomplishment of the research purpose of the applicable Research Project.

Moreover, in addition to the above-mentioned equipment sharing system, participants are also asked promote sharing of research facilities/equipment beyond the framework of individual research organizations and institutes by positively cooperating with the “Inter-University Network for Common Utilization of Research Equipments,” which was implemented for the purpose of mutual use of facilities in the Institute for Molecular Science, National Institutes of Natural Sciences, and the nationwide academic sharing system constructed in the “Facility Support Center Development Project” by each national university.

- "Introduction of a New Research Facility/Equipment Sharing System Integrated with the Management of Research Institutes" (Advanced Research Platform Group, Council for Science and Technology, November 2015), in Japanese.
  https://www.mext.go.jp/component/b_menu/shingi/toushin/__icsFiles/afieldfile/2016/01/21/1366216_01_1.pdf

- “Reform on the Competitive Research Funds for Sustainable Creation of Research Achievements (Midterm Summary)" (Examination Meeting on the Reform of Competitive Funds, June 24, 2015), in Japanese. https://www.mext.go.jp/b_menu/shingi/chousa/shinkou/039/gaiyou/1359306.htm
- Unification of usage rule of competitive research funds (April 20, 2017), in Japanese. https://www8.cao.go.jp/cstp/compefund/shishin3_siyouruuru.pdf
- Purchase of sharable equipment under multiple research funds (combined use) (March 31, 2020), in Japanese. https://www.mext.go.jp/content/20200603-mxt_sinkou02-100001873-01.pdf
- Inter-University Network for Common Utilization of Research Equipment, in Japanese. https://chem-eqnet.ims.ac.jp/
- Support Program for Introducing New sharable System, in Japanese https://www.jst.go.jp/shincho/program/pdf/sinkyoyo_brochure2019.pdf

4.13 Improvement of Treatment of Doctoral Student Participants

In order to attract outstanding students and working people from home and abroad, the 5th Science and Technology Basic Plan has set up a numerical goal of providing about 20% of the (latter-stage) doctoral students with grants equivalent to their living costs as part of an enhanced financial support for graduate students, especially for the (latter-stage) doctoral students and is requesting to expand employment and improve treatment of (latter-stage) doctoral students as TAs (teaching assistants) and RAs (research assistants) at universities or research institutions. In “Comprehensive Package to Strengthen Research Capacity and Support Young Researchers (January 23, 2020, CSTI),” securing an appropriate salary level for RAs with competitive research funds or collaborative research funds is mentioned as one of specific measures for ‘Enabling the (latter-stage) doctoral students to receive the amount of salary equivalent to the living expenses.’

In addition, “Higher Education toward 2040 – Shifting to learners-oriented Graduate school education reform leading the future (deliberation summary)” (Working Group on Universities, Central Council for Education, January 22, 2019) and “Development of Science, Technology and Innovation Policy towards the creation of knowledge-intensive values- For becoming a world-leading country by realizing Society 5.0 (tentative translated title) – Final Report” (March 26, 2020, The Special Committee on Comprehensive STI policy) mentioned the necessity of supporting (latter-stage) doctoral students to increase the employment or enhance the salaries of them as research assistants (RAs), enhance the employment as teaching assistants (TAs) and reduce the burden on teachers by increasing the employment of TAs for securing research time for teachers with various financial resources such as the competitive funds and collaborative research funds with private companies.

In addition, if (latter-stage) doctoral students assist teachers for their research activities as RAs, etc., it is recommended that doctoral students receive appropriate amount of salaries for their work.

Based on these circumstances, it is requested that the (latter-stage) doctoral students should be employed as RAs and Tas, their salaries should be equivalent to their cost of living and they should receive an appropriate amount of salaries based on their working hours under the proper working management. Application should be made in consideration of salaries of (latter-stage) doctoral students mentioned above and financial plans when applying to this program.

- A salary level of approximately 1.8 to 2.4 million annually or 150,000 to 200,000 yen monthly, equivalent to their cost of living, is recommended, and such amount shall be included in the research costs. It is possible to pay them not only hourly but also monthly or annually, depending on the nature and content of their activities.

  <About approximately 1.8 to 2.4 million yen annually as equivalent to their cost of living>

  In the 5th Science and Technology Basic Plan, an annual amount of 1.8 million yen is assumed to be equivalent to the cost of living, based on the amount paid to the doctoral course students (DCs) without financial anxiety, annual amount of 1.8 to 2.4 million yen is recommended necessary for their living expenses.
- Judgments concerning the actual amount, length of payments, etc. will be determined by the research institutions, and there are no maximum or minimum limitations on payments.
- When employing (latter-stage) doctoral students as RAs, the considerations must be made not to make them work excessively and secure the balance between their research activities and studies.

4.14 Support Young Researchers with Fixed-Term Appointments

In “Improve Research Ability Reform 2019” (April 23, 2019, MEXT) and “Development of Science, Technology and Innovation Policy towards the creation of knowledge-intensive values- For becoming a world-leading country by realizing Society 5.0 (tentative translated title) – Final Report” (March 26, 2020, The Special Committee on Comprehensive STI policy) mentioned the importance of securing more than 5 years of employment for specially appointed faculties and post-doctoral students with fixed-term appointments to avoid factors that impede their career formation.

“Guidelines for personnel and salary management reforms at national university and institutions - To build attractive personnel and salary management for contributing to the improvement of educational and research capabilities (tentative translated title)” (February 25, 2019) mentioned that “To realize both training young teachers and stabilizing their employment, securement of 5 to 10 years of employment as well as establishment of liquidity system including fostering researchers is desirable by utilizing indirect costs, donations, and other flexible expenses.

Based on these circumstances, it is recommended to secure the employment for young researchers, such as specially appointed faculties, post-doctoral students, etc., for the entire period of this program, or even longer certain period, by utilizing indirect costs, basic costs of external funds, donations, etc.

4.15 Support for voluntary research activities of young researchers employed in the program

Based on “Implementation Policy on Voluntary Research Activities of Young Researchers Employed for Competitive Research Fund Projects (tentative translated title)" (The Coordination Committees of Relevant Ministries and Agencies on Competitive Funds, February 12, 2020), when the principal investigator determines that it does not hinder the promotion of the program, participation of such young researchers contributes to the promotion of the program, and approval from affiliated research institute is obtained, the personnel costs for such young researchers can be paid from the research cost, and a part of their efforts can be spent for their activities, including their voluntary research activities and their research and management capacity improvement. For details, please refer to the latest version of JST official administration manuals.
https://www.jst.go.jp/moonshot/en/application/202009/index.html

4.16 Support for a Variety of Career Paths for Young Doctoral Researchers

In “Basic Policy for Supporting Various Diverse Career Paths of Young Post-doctoral Researchers Employed with Public Research Funds of the Ministry of Education, Culture, Sports, Science and Technology” (Human Resources Committee, Council for Science, Technology, December 20, 2011), it is requested that public research institutions employing young post-doctoral researchers with public research funds and principal investigators should actively work for young post-doctoral researchers to secure various career paths in Japan and abroad. Based on the understanding of these circumstances, if research institutions employing post-doctoral researchers with public research funds (competitive funds, other project research funds, or public research funds for universities) after selecting their research projects in the public invitation, they are requested to provide various supports to secure various career paths for the researchers.

The research institutions should consider utilizing the indirect costs for the efforts.

4.17 Security Export Control (Measures against Leakage of Technology Internationally)

A lot of cutting-edge technologies are being researched at research institutions, and in particular at universities, leading-edge technologies, as well as materials and equipment used for research, are leaked due to an increase of foreign students and researchers through internationalization, which has increased the risk of these technologies being exploited for the development and manufacture of weapons of mass destruction, etc. In order for research institutions to carry out various research activities, including contract Research, they are required to take systematic responses to ensure that research results that may be diverted militarily are not passed on to those who may perform these activities, such as developing of weapons of mass destruction for terrorist groups.

In Japan, exports are restricted * pursuant to the Foreign Exchange and Foreign Trade Act (Act No. 228 of 1949) (hereinafter referred to as the “Foreign Exchange Law”). This, in principle, requires those who intend to export (provide) freight or technologies regulated by the Foreign Exchange Law to obtain approval from the Minister of Economy, Trade and Industry. Research institutions are required to comply with the foreign exchange law, as well as the country’s laws and regulations, guidelines and notifications. If they conduct research in violation of relevant laws and regulations or guidelines, they are subject to termination of research funding allocation or revoking of the decision on research fund allocation, besides legal dispositions and

penalties.
* At present, Japan's security export control system has two main systems based on international agreements: List Regulation and Catch-all Regulation. The List Regulation system is a system which, in principle, requires those intended to export or provide freight (or technologies) that meet specifications or functions of a certain level or higher, such as carbon fibers, numerical control machine tools, etc., to obtain approval from the Minister of Economy, Trade and Industry. The Catch-all Regulation system is a system that requires those intended to export or provide freight (or technologies) not subject to the List Regulation system which meet certain requirements, such as application, customer or notification requirements, to obtain approval from the Minister of Economy, Trade and Industry.

Not only the export of goods but also the provision of technology are also subject to the regulation of the Foreign Exchange Law. Providing technologies subject to the List Regulatory to non-residents or those in foreign countries requires prior permission. Providing technical information includes providing technical information, such as design drawings, specifications, manuals, samples and prototypes in storage media, such as paper, e-mail, CD, DVD, or USB memory and providing work knowledge through technical guidance, training or technical assistance in seminars. Acceptance of foreign students from foreign countries, and activities, such as joint research, may also involve many exchanges of technologies that may be subject to foreign exchange law.

The details of security export control are disclosed on websites, such as of the Ministry of Economy, Trade and Industry. For details, refer to the following.

- Ministry of Economy, Trade and Industry (METI): Security Export Control (general)
  http://www.meti.go.jp/policy/anpo/
- Ministry of Economy, Trade and Industry (METI): Security Export Control Handbook
  http://www.meti.go.jp/policy/anpo/seminer/shiryo/handbook.pdf
- Center for Information on Security Trade Control
  http://www.cistec.or.jp/index.html
- Ministry of Economy, Trade and Industry (METI): Guidance for the Control of Sensitive Technologies for Security Export for Academic and Research Institutions
  http://www.meti.go.jp/policy/anpo/law_document/tutatu/t07sonota/t07sonota_jishukanri03.pdf

4.18 Dialogue and Collaboration with Public Stakeholders

According to "Promotion of Dialogue on Science and Technology with the Public (a Basic Approach Policy)" (June 19, 2010, decision of the Minister of State for Science and Technology Policy and expert committee), if a proposal is selected in this call and receives an allocation of public research funds (competitive funds or project research funds) in an amount of 30 million yen per year or more for one project, it is considered essential to have an attitude in which excellent achievements in science and technology are constantly produced, and achievements in science and technology are returned to the public in order to further develop science and technology in Japan, and science and technology are advanced jointly with the understanding and support of the public through "Dialogue on Science and Technology with the Public." In addition, the 5th Science and Technology Basic Plan (Cabinet decision of January 22, 2016) calls for deepening the conventional relationship, in which science and technology and society are opposed, into a relationship of dialogue and cooperation by various stakeholders, i.e., researchers, citizens, the media, industry, and policymakers, in other words, a relationship that promotes "co-creation." From these viewpoints, efforts to explain the content and results of research activities to society and the public in easily understood terms, and efforts to promote dialogue and cooperation among various stakeholders are demanded.

Based on this, we ask that program participants make active efforts in connection with these activities, including holding public lectures and symposiums on research achievements, continuously posting information on research achievements on the internet, and holding roundtable meetings with various stakeholders.

(Reference)
"Promotion of Dialogue on Science and Technology with the Public, (A Basic Approach Policy)"
https://www8.cao.go.jp/cstp/output/20100619taiwa.pdf
"The 5th Science and Technology Basic Plan"
https://www8.cao.go.jp/cstp/kihonkeikaku/5honbun.pdf

4.19 Data disclosure from The National Bioscience Database Center

The National Bioscience Database Center (NBDC) (https://biosciencedbc.jp/) was established in the Japan

Science and Technology Agency (JST, a National Research and Development Agency) in April 2011 to promote the integrated use of databases in the life sciences field created by various research institutions and others. In “Progress and Future Direction of the Integration of Life Science Database Project" (January 17, 2013), the object projects that receive provision of data and databases are to be expanded, centering on the NBDC.

Based on these points, program participants are asked to cooperate in disclosure by the NBDC of the following types of data and databases obtained from this program.

No.	Type of Data	Place of Disclosure	URL
1	Overview of databases constructed for disclosure	Integbio Database Catalog	https://integbio.jp/dbcatalog/?lang=en
2	Copies of data in connection with results published in paper presentation, etc. or copies of databases constructed for disclosure	Life Science Database Archive	https://dbarchive.biosciencedbc.jp/index-e.html
3	Of items in 2, data related to human beings	NDBC Human Database	https://humandbs.biosciencedbc.jp/en/

< Contact >
National Bioscience Database Center of Japan Science and Technology Agency
TEL: +81-3-5214-8491
e-mail: nbdc-kikaku@jst.go.jp

4.20 Guidelines for Writing Acknowledgements

When publishing the research results from this program, please indicate that you have received our fund.

Please include "[Moonshot R&D – MILLENNIA Program] Grant Number [10 digits (JPMJ + MS + 4 digits of project number)] in the Acknowledgment of the paper. Example of Acknowledgement in English is as follows:

This work was supported by JST [Moonshot R&D – MILLENNIA Program] Grant Number [JPMJMSxxxx].

* If such results are made with multiple funding programs, please indicate all program names and systematic numbers.

4.21 Reformation of Competitive Funds

The government of Japan is currently discussing how to enable the use of competitive research funds more effectively and efficiently, in accordance with the “Integrated Innovation Strategy 2019” and the “Comprehensive Package to Strengthen Research Capacity and Support Young Researchers”. JST will provide information if in case there are any improvements and operation changes that are related to this call for proposals.

4.22 Reformation of Competitive Funds, Guidelines for the Management and Audit of Public Research Funds in Research Institutions (Practice Standards)

(1) About implementation of proper systems in accordance with the “Guidelines for Management and Audit of Public Research Funds in Research Institutions (Implementation Standards)”

The research institutions applying for this program and conducting research should comply with the contents of the “Guidelines for Management and Audit of Public Research Funds in Research Institutions (Implementation Standards)” (revised on February 18, 2014) [*1].

Research institutions are requested to establish a system for managing and auditing research funds under their responsibility in accordance with the above-mentioned guidelines and strive for proper execution of research funds. If the Ministry of Education, Culture, Sports, Science and Technology (MEXT) finds the system implementation of a research institution inadequate as a result of investigation of the status of system implementation in accordance with the abovementioned guidelines, JST may take measures, such as reduction in the indirect costs of all the competitive funds distributed from the MEXT and the independent administrative corporations under its jurisdiction.

[*1] For "Guidelines for Management and Audit of Public Research Funds in Research Institutions (Implementation Standards)," please visit the following web site:
https://www.mext.go.jp/a_menu/kansa/houkoku/1343904.htm

(2) Submission of "Self-evaluation Checklist for Implementation of Proper Systems" based on "Guidelines for Management and Audit of Public Research Funds in Research Institutions (Implementation Standards)"

Before concluding an agreement for this program, each research institution is requested to establish a system for managing and auditing research costs in accordance with the abovementioned guidelines, and submit Self-evaluation Checklist for Implementation of Proper Systems (hereinafter referred to as the "checklist"), and a report indicating the status of system implementation. (A research institution that fails to submit the checklist cannot conduct research.)

Research institutions need to submit the checklist to Competitive Funding Coordination Office, Promotion Planning Division, Research Promotion Bureau, the MEXT using a form available on the website shown below by the date of concluding the research agreement via the cross-ministerial R&D Management System (e-Rad). Research institutions that have submitted the checklist on a separate occasion after April 2020 need not submit it this time. The organizations that do not receive competitive research funds, etc. from MEXT or affiliated agencies, the submission of the checklist is unnecessary. For details on submitting the checklist, visit the following MEXT website:
http://www.mext.go.jp/a_menu/kansa/houkoku/1301688.htm

*Note: Research institutions must have their e-Rad environment available before they can submit the checklist. Please note that the registration usually takes about two weeks. For details on the procedure for using e-Rad, visit the website below.
https://www.e-rad.go.jp/organ/index.html

The above-mentioned guidelines include a focus on "promoting the dissemination and sharing of information." Research institutions are requested to post this checklist on their websites, etc. to actively send information.

4.23 Consideration on "Guidelines for Responding to Misconduct in Research"

(1) About implementation of proper systems in accordance with "Guidelines for Responding to Misconduct in Research"

Research institutions are requested to comply with the "Guidelines for Responding to Misconduct in Research" (Adopted by the Minister of Education, Culture, Sports, Science and Technology, August 26, 2014) [*1] before applying for this program and performing research activities.

If the Ministry of Education, Culture, Sports, Science and Technology (MEXT) finds the system implementation of a research institution inadequate as a result of investigation of the status of system implementation in accordance with the above-mentioned guidelines, JST may take measures, such as reduction in the indirect costs of all the competitive funds distributed from MEXT and the independent administrative corporations under its jurisdiction.

[*1] For "Guidelines for Responding to Misconduct in Research," please visit the following website:
https://www.mext.go.jp/b_menu/houdou/26/08/1351568.htm

(2) About the submission of the checklist on the status of efforts in accordance with the "Guidelines for Responding to Misconduct in Research"

Before concluding an agreement for this program, each research institution needs to submit the checklist on the status of implementation in accordance with the "Guidelines for Responding to Misconduct in Research" (hereinafter referred to as the "Research Misconduct Checklist. (A research institution that fails to submit the checklist cannot conduct research.)

Research institutions need to submit the Research Misconduct Checklist in a form available on the website shown below to Research Integrity Promotion Office, Human Resources Policy Division, Science, Technology and Academic Policy Bureau, MEXT, by the date of concluding the research agreement via the cross-ministerial R&D Management System (e-Rad). Research institutions that have submitted the Research Misconduct Checklist on a separate occasion after April 2020 need not submit it this time. The organizations that do not

conduct research activities or those who conduct research activities but do not receive budgetary allocations or measures from MEXT or independent administrative corporations under its jurisdiction do not need to submit the checklist.

For details on submitting the Research Misconduct Checklist, please visit the following MEXT website:
https://www.mext.go.jp/a_menu/jinzai/fusei/1374697.htm

*Note: Research institutions must have their e-Rad environment available before they can submit the checklist. Please note that the registration usually takes about two weeks. For details on the procedure for using e-Rad, visit the website below:
https://www.e-rad.go.jp/organ/index.html

(3) About measures against misconduct in research activities in accordance with the "Guidelines for Responding to Misconduct in Research"

JST will respond strictly to any misconduct found in the research activities of this program as follows:

(i) Measures to cancel the agreement

If a specific misconduct, such as fabricating, falsification or plagiarism, is found in this project, JST will cancel or change the research agreement and request for refunding of all or part of the Contract Research costs, depending on the nature of the misconduct. JST may not enter into a contract for the next and subsequent fiscal years.

(ii) Measures to restrict eligibility for application and participation

For a person involved in a specific misconduct in research papers or reports in this project or a person who is determined to have neglected the duty of care as a person responsible for the papers, reports, etc., although they cannot be determined to have been involved in the misconduct, JST will restrict eligibility for application for or participation in this program, depending on the degree of viciousness and responsibility for the specific misconduct.

If JST takes measures to restrict eligibility for application and participation, JST provides the information to persons in charge of competitive funds distributed from MEXT and the independent administrative corporation under its jurisdiction (hereinafter referred to as "MEXT related competitive funding programs") and to those in charge of competitive funds distributed from other ministries and agencies and the independent administrative corporation under their jurisdiction (hereinafter referred to as "other ministry-related competitive funding programs").

This may also result in restrictions on eligibility for application for and participation in MEXT and other ministry-related competitive funding programs.

<table>
<tr><th colspan="3">Applicants subject to restrictions on application due to a specific misconduct</th><th>Degree of misconduct</th><th>Application prohibited period *</th></tr>
<tr><td rowspan="4">Those related to the misconduct</td><td colspan="2">1. Aggravated Misconduct because intended or planned at the start</td><td></td><td>10 years</td></tr>
<tr><td rowspan="3">2. Authors of publications guilty of misconduct</td><td rowspan="2">Person in charge of the publication (supervising editor, representative author, or those with equal responsibility)</td><td>Major influences on development of the research area or society, or strongly aggravated.</td><td>5-7 years</td></tr>
<tr><td>Minor influences on development of the research area or society, or weakly aggravated.</td><td>3-5 years</td></tr>
<tr><td>Other than the above</td><td></td><td>2-3 years</td></tr>
<tr><td colspan="2">3. Those involved in misconduct other than 1 and 2 above</td><td></td><td>2-3 years</td></tr>
<tr><td colspan="3" rowspan="2">Those responsible for the publication based on misconduct but not related to the misconduct themselves (supervising editor, representative author, or those with equal responsibility)</td><td>Major influences on development of the research area or the society, or strongly aggravated.</td><td>2-3 years</td></tr>
<tr><td>Minor influences on the development of the research area or the society, or weakly aggravated.</td><td>1-2 years</td></tr>
</table>

* Eligibility for participation is also restricted for the fiscal year in which a specific misconduct is determined as such.

(iii) Measures against researchers who have been subject to restrictions on their eligibility for application for the competitive funding programs and for basic expenses

For researchers whose eligibility for application and participation have been restricted due to a specific misconduct in research activities that receive MEXT-related competitive funds, operating costs subsidies provided to national university corporations, Inter-University Research Institution Corporation and independent administrative corporations under the jurisdiction of MEXT, private school subsidies or other basic expenses, or other ministry-related competitive funds, JST will restrict eligibility for application and participation in the program.

(iv) Publication of misconduct case

If a researcher committed a misconduct in the research activities in this project, JST will publish the outline (researcher name, program name, affiliated organization, fiscal year of research, description of misconduct, and description of measures that have been taken) of the misconduct case. The description of misconduct case (name, type, research field and outline of misconduct case, name of expenses involved in misconduct, measures that were taken by research institution and by funding agency) are also, in principle, published by the MEXT.

The above-mentioned guidelines state that if it is determined that misconduct has been found, research institutions shall publish the results of investigation promptly. The research institutions are requested to respond properly.

http://www.mext.go.jp/a_menu/jinzai/fusei/1360483.htm

4.24 Duty to Complete Education on Research Ethics and Compliance

Researchers who are to participate in this project shall receive education on research integrity to prevent

misconducts in research activities, as requested in “Guidelines for Responding to Misconduct in Research,” and on compliance, as requested in the “Guidelines for Management and Audit of Public Research Funds in Research Institutions.”

During the conclusion of the research agreement after adopting a proposed research project, the principal investigator must submit a document that confirms that all researchers who are to participate in this project have received education on research integrity and compliance and have understood the contents.

4.25 Handling of Information Provided in Research Proposals, etc.

JST handles the information related to each selected research project on e-Rad (program name, project title, name of affiliated research institution, name of principal investigator, amounts of budget, implementation period, and project summary) as the information to be released as set forth in Article 5, item (i) (a) of “Act on Disclosure of Information Held by Independent Administrative Corporations” (Act No. 140 of 2001). After selecting a research project, JST will publish this information on the website of the program, as appropriate.

4.26 Provision of Information on e-Rad System to Cabinet Office

In order to promote science and technology innovation policies based on objective grounds, the 5th Science and Technology Basic Plan (Cabinet Decision of January 2016) requires a thorough registration of public funds in the cross-ministerial R&D Management System (e-Rad) to facilitate evaluation and analysis. The information registered in e-Rad is used to evaluate the nationally funded R&D properly and plan effective and efficient comprehensive strategies, resource allocation policies, etc. Based on the information registered in e-Rad, CSTI and related ministries and agencies associate the output and outcome information with input to the publicly funded research program. To this end, a thorough registration of outcome information, such as papers, patents, and accounting performance, is called for.

It is also requested to enter information on the research results, accounting performance and the execution performance of indirect costs for the competitive funds for a selected research project for each fiscal year in e-Rad.

This provides the Cabinet Office with the information necessary for macroeconomic analysis, such as information on the research results, accounting performance.

4.27 Registration of Researcher Information to researchmap

researchmap (https://researchmap.jp/) is the largest researcher information database in Japan in the form of a comprehensive list of Japanese researchers, and the registered performance information can be published through the Internet. The researchmap is also linked to e-Rad and the faculty databases of many universities to allow the registered information to be used by other systems as well. This eliminates the needs for researchers to repeatedly register the same performance in various applications and databases.

The information registered in the researchmap is also effectively used for investigation for planning of national scientific and technological policies and for statistical utilization. Researchers are requested to register information to researchmap.

4.28 Patent Applications by JST

If a research institution will not acquire any rights for an invention, JST may acquire the rights. If the research institution does not intend to acquire rights for the invention, the researcher should convey the information on the invention promptly to JST in any format. (The above “information on the invention” refers to the information required for JST to determine whether or not an application can be filed, such as a copy of the invention report used in the research institution.)

JST will conducts a review based on the information, and as a result, if JST determines that the invention can be filed, the research institution and JST will conclude an agreement for transferring the right to receive a patent.

Chapter 5: Submission via the Cross-ministerial R&D Management System (e-Rad)

5.1 The Cross-ministerial R&D Management System (e-Rad)

The cross-ministerial R&D Management System (e-Rad) is a cross-ministerial system that provides a series of on-line processes to manage the publicly funded research programs under the jurisdiction of ministries and agencies (Acceptance of applications → Screening → Selection → Management of selected project → Registration of research results and accounting performance).

* The "e-Rad" is the abbreviation of the cross-ministerial R&D Management System, which is created by adding the capital letter of "e" of "Electric" to the capital letters of "Research and Development" for science and technology.

5.2 How to Operate e-Rad for Your Application

Research institutions are requested to make an application using e-Rad. For the application flow, please refer to the flowchart as well as be aware of the following points when submitting your application.

(1) Pre-registration for using e-Rad

Research institutions and researchers must be pre-registered before e-Rad can be used.

① Registration of research institution

A research institution needs to be registered to e-Rad by the time of application. A research institution is requested to appoint one administrative representative in charge of the e-Rad who download the form of research institution registration from the e-Rad portal site (hereinafter referred to as the "portal site") and apply by mail to us. Since registration takes several days, the research institution should perform the registration procedure more than two weeks before. Once the registration is completed, the research institution needs not to register the information again when applying for a program under the jurisdiction of other ministries or agencies. Similarly, if the research institution has already registered its information in a program under the jurisdiction of other ministry or agency, it need not register its information again.

② Registration of researcher

The research institution must register its researcher information and issue a log-in ID and a password. For how to register researcher information, refer to the manuals, posted on the portal site, for the administrative representative of the research institution and for persons in charge of administrative work.

(1) Application using e-Rad application

For application using e-Rad application by researchers, refer to researchers' manual posted on the portal website.

<Note>

① Application requires entry of application information on the website and the attachment of an application form. The application form that can be uploaded is a single file having the maximum capacity of 10 MB. If you include image data in the file, be careful of the file size. If the upper limit is exceeded, contact a person in charge of program before uploading.

② The created application form file must be uploaded in PDF format. The e- Rad has a function to convert a WORD or Ichitaro file into a PDF file. The PDF conversion software that can be used on your PC can also be downloaded. The use of these functions and software is not always mandatory for PDF conversion, however, if you do use them, be sure to refer to the researchers' manual for usage and precautions.

③ If approval of the administrative representative of the research institution is required for application, the status of the application becomes "Processing (Research Institution)" after the submission of the application by the researcher. Confirm the application status on the "List of Applications and Approved Projects" screen.

④ An application whose status is not changed to “Processing (Distribution institution)” or “Accepted” will be invalidated by the submission deadline. Confirm the application status on the “List of Applications and Approved Projects” screen. For application that requires approval from the administrative representative of the research institution, that approval must be made by the deadline of submission. If the status has not been changed despite the submission of application by the researcher and approval by the administrative representative of the research institution by the deadline, please contact the person in charge of program (moonshot-koubo@jst.go.jp).

(3) Other

An incomplete application form will not be subject to screening. Be sure to read “Public Invitation Guideline” and “Procedure for Preparing Application Forms” and then fill out the form carefully (Do not change the format of the application form). JST does not accept a request to replace or return the application form.

5.3 Others

(1) How to operate e-Rad

For how to operate e-Rad, visit the portal site (https://www.e-rad.go.jp/) or download the manual from the site. Be sure to agree to the terms of use before making an application.

(2) Where to direct questions on how to use the e-Rad system

Questions about the program itself are answered by a person in charge of program, just as usual. Questions about e-Rad operation methods are answered by e-Rad Help Desk. Before asking questions, be sure to read the website for public invitation for this program and e-Rad Portal site carefully. JST will not answer any questions regarding the status of the screening or acceptance.

Questions about programs and procedures for preparing and submitting application documents	Department of Moonshot Research and Development Program, JST	E-mail: moonshot-koubo@jst.go.jp Tel: 03-5214-8419 (10:00～17:00) * Excluding Saturday, Sunday, public holidays, and New Year Holidays
Questions about e-Rad operation methods	e-Rad Help Desk	0570-066-877 (Navi Dial) 9:00～18:00 *Excluding Saturday, Sunday, public holidays, and New Year Holidays

○Moonshot R&D - MILLENNIA Program website:
https://www.jst.go.jp/moonshot/en/application/202009/index.html
○e-Rad Portal website: https://www.e-rad.go.jp/

(3) Availability of e-Rad

e-Rad operates 24 hours a day, 365 days a year, but it may temporary stop the service due to the system maintenance. Notification of such temporary closure will be preliminarily posted on our website (https://www.jst.go.jp/moonshot/en/application/202009/index.html).